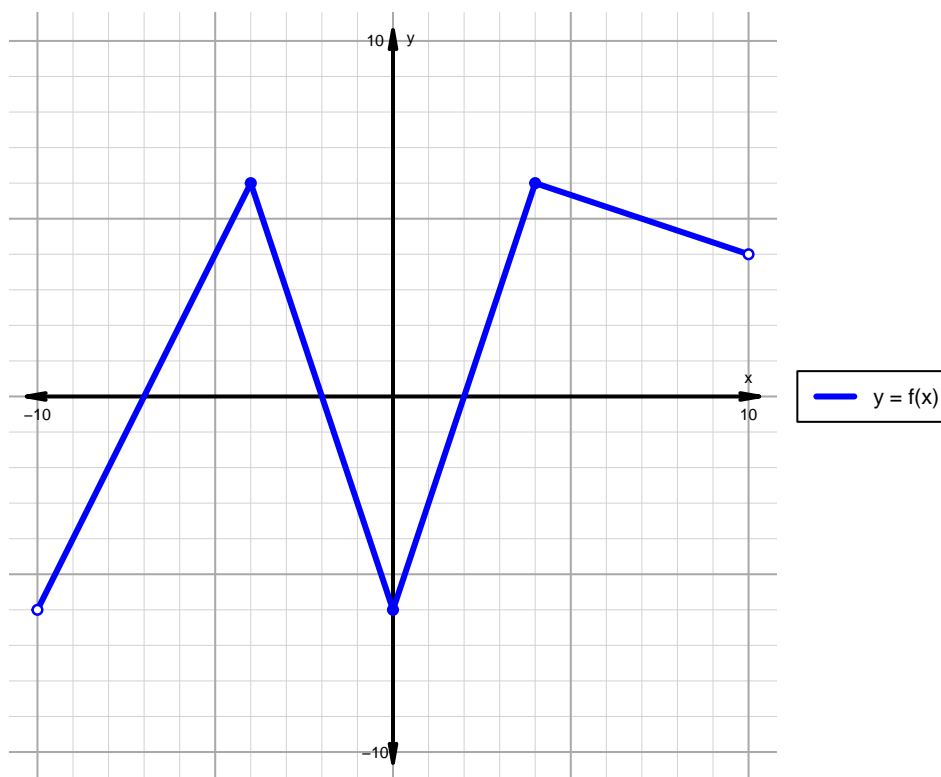


Name: _____

Date: _____

Intervals, Transformations, and Slope Solution (version 64)

1. The function f is graphed below.

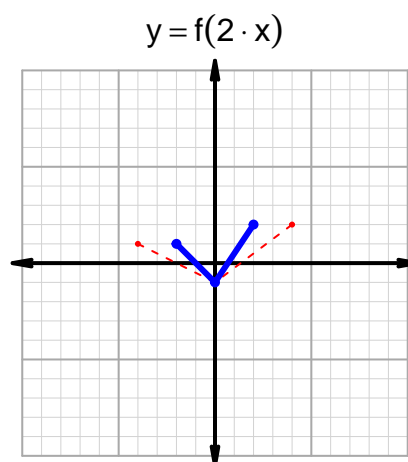
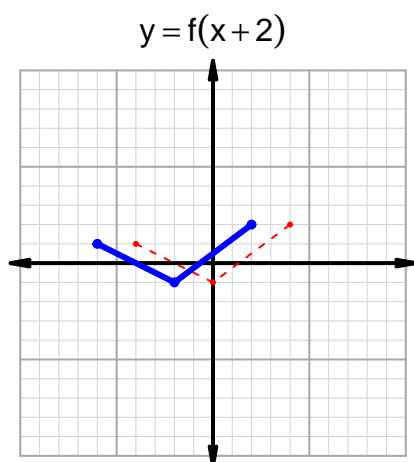
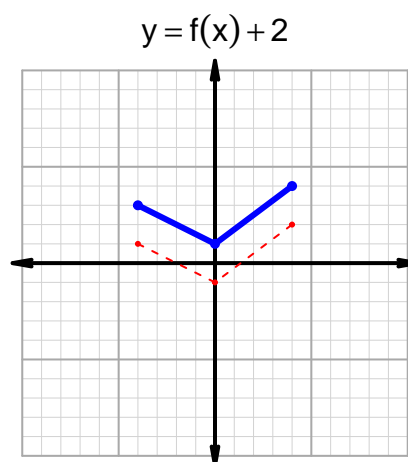
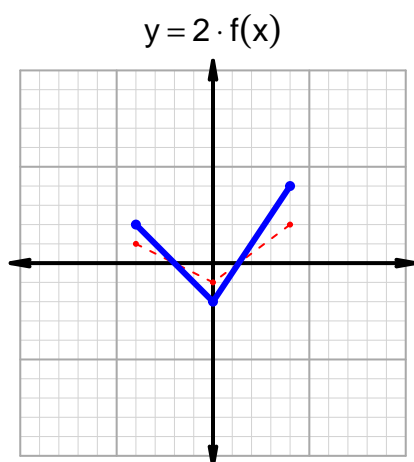


Indicate the following intervals using interval notation. Remember, you can use \cup between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

Feature	Where
Positive	$(-7, -2) \cup (2, 10)$
Negative	$(-10, -7) \cup (-2, 2)$
Increasing	$(-10, -4) \cup (0, 4)$
Decreasing	$(-4, 0) \cup (4, 10)$
Domain	$(-10, 10)$
Range	$(-6, 6)$

Intervals, Transformations, and Slope Solution (version 64)

2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2) - g(x_1)}{x_2 - x_1}$ to find the average rate of change between $x_1 = 43$ and $x_2 = 67$. Express your answer as a reduced fraction.

x	$g(x)$
31	67
40	43
43	31
67	40

$$\frac{g(67) - g(43)}{67 - 43} = \frac{40 - 31}{67 - 43} = \frac{9}{24}$$

The greatest common factor of 9 and 24 is 3. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{3}{8}$$